

Notice of Allowability

Application No.

10/667,589

Examiner

Thanh V. Pham

Applicant(s)

TSAI, JUNG-HUI

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☐ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 09/23/2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date ____.
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date ____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

George Fourson
Primary Examiner

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Richard Fichter on 04/21/2005.

The application has been amended as follows:

In claim 1, from line 2 to line 11, delete "comprises a semiconductor substrate, a buffer layer on said semiconductor substrate, a non-doped strain layer on said buffer layer, a first non-doped spacer layer on said non-doped strain layer, a δ -doped carrier supplying layer on said first non-doped spacer layer, a second non-doped spacer layer on said δ -doped carrier supplying layer, a n-doped semiconductor layer on said second non-doped spacer layer, a p⁺-doped semiconductor layer on said n-doped semiconductor layer, and a n⁺-doped semiconductor covering layer over the aforementioned p⁺-doped semiconductor layer. In" and insert --comprising

a semiconductor substrate;

a buffer layer on said semiconductor substrate;

a non-doped strain layer on said buffer layer;

a first non-doped spacer layer on said non-doped strain layer;

a δ -doped carrier supplying layer on said first non-doped spacer layer;

a second non-doped spacer layer on said δ -doped carrier supplying layer;

an n-doped semiconductor layer on said second non-doped spacer layer;
a p⁺-doped semiconductor layer on said n-doped semiconductor layer; and
an n⁺-doped semiconductor covering layer over the aforementioned p⁺-doped semiconductor layer; wherein, -- instead.

In claim 2, line 2 to line 3, delete "layer, an additional non-doped spacer layer on said additional δ -doped carrier supplying layer, wherein" and insert --layer; an additional non-doped spacer layer on said additional δ -doped carrier supplying layer; therefore, -- instead.

2. The following is an examiner's statement of reasons for allowance: the cited prior art, individually or in combination, does not disclose or suggest all of the claimed elements in the present application, for examples, US Pub. 2003/0017683 provides a pHEMT having most of the explanation but lacks the δ -doped for the carrier layer and the n-p-n layers in the claimed sequential layers. US Pub. 2004/0157353 has the n-p-n layers but lacks the δ -doped layer in the epitaxial multi layers and ^{does} not mention to pHEMT. US Pub. 2004/0155261 and 2004/0119090 teach the epitaxial multi layers but the sequential layers arrange different from the claimed invention and also lacks the n-p-n layers. The combination could not be made because of the uniqueness of each design.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh V. Pham whose telephone number is 703-308-2543. The examiner can normally be reached on M-T (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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TvP

04/21/2005